

### **Abstract**

The invention relates to a fuel cell, comprising a substrate supporting an electrolytic membrane with first and second faces on which first and second electrodes are respectively arranged. The first and second electrodes respectively comprise first and second catalytic elements and first and second fluids are respectively provided for supply to the neighbourhood of the first and second catalytic elements. The supply of the first fluid on the neighbourhood of the first catalytic element is embodied such as to generate a circulation essentially parallel to the first face of the electrolytic membrane, in a cavity formed in the substrate.